

ABSTRACT OF THE DISCLOSURE

Near infrared molecular assays can be used to detect small quantities of a molecule of interest *in vivo* or *in vitro* using laser dyes. A hand-held portable device is provided which can rapidly read small quantities of selected molecular tags in tissues of fish or other animals in the field. The device is composed of four components:

- (1) a light source, such as a laser diode;
- (2) a sample holder;
- (3) an optical system; and
- (4) a detector.